



# Project Summary

## Multiple Projections System (MPS): User's Manual Version 1.0

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The Clean Air Act Amendments (CAAA) of 1990 called for Reasonable Further Progress (RFP) inventories to be submitted to EPA for the purpose of demonstrating strategies by which a 15 % reduction in volatile organic compound (VOC) emissions will be achieved between 1990 and 1996. This requirement applies to moderate, serious, severe, and extreme ozone nonattainment areas. In addition, serious, severe, and extreme areas must demonstrate at least a 3 % annual average reduction beginning in 1996 and continuing thereafter until attainment is reached. In order to meet Section 182(b)(1) and (c)(2) requirements, state/local air agencies require a computer system capable of performing "what if scenario analysis" and reporting the final results (i.e., their Rate-of-Progress [ROP] inventories) to EPA (i.e., Aerometric Information Retrieval System, AIRS). This is based on the 3% RFP Tracking System that was developed in FY92/FY93. The 3% RFP Tracking System is a Windows\* application, and enhancements to the system to convert it to a Multiple Projections System (MPS) have continued to be within the framework of a Windows application. The system will support ROP inventories for ozone and carbon monoxide (CO) and thus will contain VOC, nitrogen oxides NO<sub>x</sub>, and CO data. The most significant change from the original 3% RFP Tracking System to MPS is the ability to submit a "final" projec-

tion emissions inventory in the format required by the AIRS Facility Subsystem (AFS) and the AIRS Area and Mobile Source (AMS) Subsystem.

The MPS is by outward appearance a collection of screens with buttons the user can click. These buttons simplify the task of setting user-defined parameters which the program will use in projecting future emissions and generating screen or hard copy output. The name of each screen is shown in the upper middle part of the screen. Most of the major headings in the manual correspond to the names of these screens, and they are presented in the order of their appearance on the monitor. For clarity, screen names are always printed in all capital letters. Specific buttons are referred to by the name printed on them, with the first letter of each word capitalized.

*This Project Summary was developed by EPA's Air and Energy Engineering Research Laboratory, Research Triangle Park, NC, to announce key findings of the research project that is fully documented in a separate report of the same title (see Project Report ordering information at back).*

### Purpose Of the MPS

The MPS is designed to facilitate the projection of future emissions of ozone precursors, specifically CO, VOCs, and NO<sub>x</sub>, in any given geographic area. The MPS gives state/local air agencies a computer system capable of performing "what if scenario analysis" and reporting the fi-

\* Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

nal results (i.e., their RFP inventories) to EPA (i.e., AFS and AMS).

## System Requirements

The prototype MPS was developed using Superbase 4, a Microsoft Windows data base package that can be compiled and distributed as a stand-alone product. As a Windows product, it requires Windows in order to run. The Microsoft Windows manual includes general Windows operating procedures. Additionally, a computer with a 386SX or better microprocessor is suggested as the platform on which to run the prototype. Because the system was developed using a Windows-based

product, it has been configured to run entirely using a mouse to point and click on various buttons to perform commands or functions. However, all functions can also be accessed via the keyboard. A hard disk drive is required to store all input and output data files. Disk space required depends on the number and size of geographic areas to be studied.

An advantage of developing the system using a Windows-based product is that certain tasks can be performed in the "background," since Windows can perform multitasking operations when running on a 386SX or better platform. Thus, when the system is performing disk intensive or

processor intensive tasks (such as file imports or emission projection calculations), the program can be minimized to an icon and the user can work on documents in a word processor or on a spreadsheet until the task is complete. The system is designed to beep when these tasks are complete and the icon's title will indicate task completion. At that point, the user can return to the program and continue the analysis.

The system can project emissions out to the year 2010 at intervals of 3 years. In addition to projecting emissions, the system can make projections in the form of percent reduction relative to base year emissions. The system is designed to accept input data from either the AFS or AMS. Output from the system is in the form of tables or graphs, which can be directed to the computer screen or to a printer. Tabular results can also be output to an ASCII file, allowing the user to subsequently import the reported information into other software for further analysis (either numeric or graphic). Data contained in the output file can also be exported to Lotus 123, dBaseIII, or Excel. As indicated above, the principal output types are batch transactions in AFS and AMS format.

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*The complete report, entitled "Multiple Projections System (MPS): User's Manual Version 1.0," consists of a manual and diskettes. (Order No. PB95-501698/AS; Cost: \$90.00; subject to change)*

*The set will be available only from:*

*National Technical Information Service  
5285 Port Royal Road  
Springfield, VA 22161  
Telephone: 703-487-4650*

*The EPA Project Officer can be contacted at:*

*Air and Energy Engineering Research Laboratory  
U.S. Environmental Protection Agency  
Research Triangle Park, NC 27711*

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